



## COUNTY OF SAN DIEGO

Great Government Through the General Management System – Quality, Timeliness, Value

## DEPARTMENT OF HUMAN RESOURCES

### CLASS SPECIFICATION

### CLASSIFIED

### COUNTY ENTOMOLOGIST/PLANT PATHOLOGIST

Class No. 005426

#### ■ CLASSIFICATION PURPOSE

To perform professional work involved in the detection, identification, exclusion, control, and eradication of insect/plant pests or plant diseases within the county; and to perform related work as required.

#### ■ DISTINGUISHING CHARACTERISTICS

This is a professional class found only in the Department of Agriculture/Weights and Measures. Under general direction, positions in this class are assigned to either the Entomology or the Plant Pathology Laboratory and have overall responsibility for a major area of research or related activities in one or more of the following specialized fields: entomology, plant pathology, or nematology. This position class reports to a Deputy Agricultural/Commissioner & Sealer and has specialized knowledge and considerable independence in pursuit of, or investigation and research into insect, plant disease, or plant nematode problems. Assignments principally consist of problems referred from the field for identification, or field analysis to determine which pathogens could pose a threat to the county. Plans, directs and coordinates pest detection and eradication programs. May provide first-line supervision over laboratory technicians and other support staff.

#### ■ FUNCTIONS

The examples of functions listed in the class specification are representative but not necessarily exhaustive or descriptive of any one position in the class. Management is not precluded from assigning other related functions not listed herein if such functions are a logical assignment for the position.

##### Essential Functions:

1. Performs laboratory and field examinations to isolate and determine the presence of, or the identity of insects, plant parasitic nematodes, plants, or plant diseases.
2. Plans, organizes, implements, and coordinates pathology/nematology or pest programs to meet and adhere to the State's regulatory compliance.
3. Examines plant and soil samples to identify and determine the presence of plant diseases, insect pests or damage from other causes, and submits lab analysis results to State officials.
4. Examines insects, arthropods, and mollusks to identify harmful pests; employs identification key and samples to compare characteristics and arrive at identification of pests collected in the county, submits specimens of unusual and potentially harmful pests to the State and other laboratories for confirmation of identification.
5. Operates a variety of specialized laboratory equipment including compound and electron microscopes to conduct tests on specimens.
6. Provides advisory services, education, and training to agricultural personnel, commercial growers, government agencies, and public or private individuals or organizations in the identification of harmful insects or plant diseases and recommends specific control measures.
7. Plans, directs and coordinates the work of the Entomology or Plant Pathology Laboratory, including evaluation and assigning of work of departmental staff supporting the lab as needed.
8. Works closely with agricultural industries to promote and achieve compliance with laws and regulations pertaining to plant diseases/nematodes and pest eradication.
9. Prepares scientific/technical reports, presentations, and information/education material.
10. Maintains records on all testing done in the laboratory and/or sent to the State, and records results.
11. Maintains up to date in the field of specialization and maintains a technical reference library including identification keys and pertinent information about the biology, ecology and distribution of pest species and effective control methods.

12. Advises on quarantines and other regulatory measures to prevent introduction.
13. Conducts inspections and/or investigations of the major sources/sites of pest problems.
14. Conducts special studies and or surveys in connection with research or other related activities and compiles and analyze data.
15. Responds to inquiries from the public, agricultural complaints, and requests for services.
16. Provides responsive, high quality service to County employees, representatives of outside agencies and members of the public by providing accurate, complete and up-to-date information, in a courteous, efficient and timely manner.

## ■ KNOWLEDGE, SKILLS AND ABILITIES

### Knowledge of:

The following apply to both options:

- Laboratory, techniques, procedures, and equipment used to identify insects, plant diseases and other pathogens.
- Scientific investigative procedures and techniques used to isolate, identify, evaluate, and classify insects, plant diseases, nematodes, and other pathogens.
- Control methods utilizing biotechnology, naturalistic, and integrated pest management principles.
- Supervision and training principles and techniques.
- Environmental protection principles.
- Agricultural business operations.
- Statistical methods and procedures used when testing samples of diseases.
- Food and Agriculture Code provisions and applicable rules and regulations.
- The relationship between plants, plant pests and pest control as they relate to agriculture and the environment.
- Literature sources pertaining to entomology, plant pathology/nematology, agricultural, horticultural and native plants, plant pests and integrated pest management.
- Knowledge of principles and methods for curriculum and training design, teaching, and instruction for individuals and groups, and the measurement of training effects.
- Program planning, coordination, organization, implementation, and evaluation principles and techniques.
- County customer service objectives and strategies.
- The General Management System in principle and in practice.

### Entomologist (in addition to the above):

- Anatomy, physiology and development of insect pests, this includes agricultural pests such as Africanized Honey Bee, White Fly, Mexican and Mediterranean Fruit Flies.
- Taxonomy and economies of major plant pests, including insects, other arthropods and mollusks of California and the United States.
- Insect ecology.
- Procedures for management of insect breeding places and environmental resources.
- Laws and regulations pertaining to exotic insect pest introduction into California and the United States.
- Federal, State and local laws and regulations pertaining to insect control.
- Pesticide uses and safety procedures.

### Plant Pathologist (in addition to the above):

- All aspects of plant pathology/nematology and related fields (e.g., entomology, botany, plant physiology, mycology, bacteriology, and virology).
- Common nematodes and their characteristics.
- Methods used to prevent, control, and eradicate nematodes and plant diseases.
- Usage and application of herbicides, fungicides, fumigants, and bactericides used to control nematodes and plant diseases.
- Abiotic disorders of plants such as those caused by air pollution, environmental stress, and chemical injury.
- Agricultural industry concerns relating to plant diseases and nematode control laws and regulations.

### Skills and Abilities to:

The following apply to both options:

- Develop and coordinate departmental procedures to effectively accomplish the goals of State-mandated agricultural programs related to insects, plant pathology and nematology.
- Perform assignments in the identification, control and eradication of pest insects or plant diseases.
- Evaluate laboratory procedures and ensure that the procedures follow state guidelines.
- Perform a variety of field and laboratory analyses and control techniques.
- Interpret and enforce laws and regulations.
- Recommend and develop pest/plant exclusion, detection, eradication, and control measures.

- Evaluate the economic importance/impact of insects and plants to county agricultural operations and concerns.
- Perform a variety of taxonomic and curatorial tasks.
- Plan, organize and conduct surveys for insect pests or plant diseases.
- Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
- Plan, direct, coordinate, assign, train, and evaluate the work of subordinate staff.
- Properly utilize a wide range of laboratory instruments including compound and electron microscopes to conduct tests on specimens.
- Explain technical information to the staff, public, industry and other agencies.
- Exercise appropriate judgment in answering questions and releasing information; analyze and project consequences of decisions and/or recommendations.
- Evaluate, resolve, and respond to sensitive issues, including industry or citizen concerns.
- Prepare public information and educational material for private industry and the general public.
- Establish effective working relationships with management, employees, employee representatives and the public representing diverse cultures and backgrounds.
- Communicate effectively orally and in writing as appropriate for the needs of the audience.
- Prepare clear and concise technical reports for lay and professional readers.
- Research sources in the area of specialization to maintain up to date information and detect changes affecting the entomology or plant pathology field.
- Participate effectively with industry, public agencies and citizen groups to solve problems.
- Assess the customer's immediate needs and ensure customer's receipt of needed services through personal service or referral.
- Treat County employees, representatives of outside agencies and members of the public with courtesy and respect.

## ■ EDUCATION/EXPERIENCE

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience are:

### Entomologist:

A bachelor's of science degree from an accredited college or university in zoology, entomology, biology, or a closely related field with emphasis on coursework in entomology; AND, four (4) years of professional experience in entomology.

### Plant Pathologist:

A bachelor's of science degree from an accredited college or university in one of the biological sciences, with emphasis on coursework in plant pathology, nematology, mycology, bacteriology, and virology, AND, four (4) years professional experience performing laboratory examinations and analysis in identifying and diagnosing the presence of plant pathogens and nematodes.

### Other qualifying options for either Entomologist or Plant Pathologist:

1. A Master's degree in a field as stated above, AND, three (3) years of professional entomology or plant pathology experience, OR,
2. A Ph.D. in a field as stated above; AND, two (2) years of professional entomology or plant pathology experience.

**Note:** Previous experience providing full supervision of subordinate staff is highly desirable.

## ■ ESSENTIAL PHYSICAL CHARACTERISTICS

**The physical characteristics described here are representative of those that must be met by an employee to successfully perform the essential functions of the classification. Reasonable accommodation may be made to enable an individual with qualified disabilities to perform the essential functions of a job, on a case-by-case basis.**

Continuous upward and downward flexion of the neck. Constant: sitting, repetitive use of left and right hand, simple grasping, and fine hand manipulation. Frequent: walking, standing, bending and twisting of neck and waist. Occasional: squatting, climbing, kneeling, crawling, power grasping, pushing/pulling, reaching above and below shoulder level, and lifting and carrying objects weighing up to 50 pounds.

## ■ SPECIAL NOTES, LICENSES, OR REQUIREMENTS

### License

A valid California class C driver's license, which must be maintained throughout employment in this class, is required at time of appointment, or the ability to arrange necessary and timely transportation for field travel. Employees in this class may be required to use their own vehicle.

### Certification/Registration

None required, but desired, licenses in the two Agricultural Biologist (Inspector) categories listed below as issued by the Director of the California Department of Food and Agriculture:

- Plant Quarantine and Pest Detection.
- Nursery and Seed Regulation.

### Working Conditions

Office and laboratory environment. Will be working around equipment and machinery, may require walking on uneven ground, exposure to extremes in temperature, humidity, or wetness, exposure to dust, gas, fumes, and chemicals, working at heights, and working with biohazards during field surveys or inspections.

### Background Investigation

Must have a reputation for honesty and trustworthiness. Misdemeanor and/or felony convictions may be disqualifying depending on type, number, severity, and recency. Prior to appointment, candidates will be subject to a background investigation.

### Probationary Period

Incumbents appointed to permanent positions in these classes shall serve a probationary period of 12 months (Civil Service Rule 4.2.5).

**New: January 23, 1993**

**Retitled: October 31, 2003 (From: Economic Entomologist II)**

**Revised: December 15, 2003**

**Revised: June 8, 2004**

**Revised/Retitled: January 21, 2005 (From: Senior Economic Entomologist)**

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County Entomologist/Plant Pathologist (Class No. 005426)

Union Code: MM

Variable Entry: Y